DOCUMENT RESUME

ED 087 538 PS 006 996

AUTHOR	Johnson, Dale L.; And Others
TITLE	Houston Parent-Child Development Center.
SPONS AGENCY	Office of Economic Opportunity, Washington, D.C.
REPORT NO	OEO-CG-6091
PUB DATE	Mar 73
NOTE	23p.; Paper presented at the biennial meeting of the Society for Research in Child Development (Philadelphia, Pennsylvania, March 29 - April 1, 1973)
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	Child Rearing; Cognitive Development; *Compensatory Education Programs; *Family Involvement; *Mexican Americans; Parent Child Relationship; *Parent Education; *Preschool Programs; Program Evaluation; Social Development

ABSTRACT

The Houston Parent-Child Development Center was established to provide a basis for educational improvement for Mexican-American families and to yield basic information about the importance of the whole family for a child's success in learning. Certain cultural factors, such as language and sex role expectations were taken into account in establishing the program for a specific population. Families enter the program when their child is 1 year old. At this stage, services are provided in the home, with training provided mainly for mothers. After the first year, the mother and child go to the center for learning activities. Project families also participate in several workshops with each other, and frequent parent discussions are held. Language instruction is woven into all program activities. The evaluation design includes plans to gather data on children, mothers, and other family members on an annual basis. Control group families will be involved. Evaluation measures for children and adults are listed, including developmental scales, intelligence tests, structured interactions, attitude surveys, child rearing inventories, etc. Initial data has been collected for 34 program and 28 control families, but only preliminary analysis has been completed. (DP)

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PS 006996

Houston Parent-Child Development Center[1]

Dale L. Johnson, Hazel Leler

Billie Bisett, Larry Brandt, Martha Frede

Alfred J. Kahn, Edward Mazeika, and Laurel Rios

University of Houston

The educational experience of the Mexican-American has too often been one of frustration and disappointment. Children frequently repeat grades and they leave school without receiving high school diplomas at alarmingly high rates. In Houston, 88% of the Spanish-surnamed youngsters do not complete high school. The median years of education for Mexican-American adults is far below that of Anglos and Blacks in all parts of the country and in Texas the gap is especially great. According to the 1970 census for Texas, Mexican-American adults had completed 7.6 years of school compared with 11.7 years for Anglos and 9.3 for Blacks.

There are undoubtedly many causes for this situation. Language and ethnic group prejudice contribute greatly as does neglect by the appropriate educational institutions. To cite but one example, until just recently state law prohibited the speaking of any language except English in public schools (apart from language classes).

[1]Presented at the biennial meeting of the Society for Research in Child Development. Philadelphia, March, 1973. This research was supported by O. E. O. Grant #CG 6091.

Educational success is important for occupational and social success and for personal gratification. Mexican-American parents want more education and a richer educational experience for their children and the Houston Parent-Child Development Center (PCDC) was created to help provide the underpinnings of a better educational experience. It was also designed to yield basic information about the relevance of the family for success in learning. We by no means argue that the parent education approach is the only one that should be taken in correcting the deplorable situation that still exists in the educational careers of Mexican-American children, much must be done directly with schools and with many related institutions. However, we do believe that early family experience is important for all forms of later development and are attempting to develop ways for parents to optimize the learning capabilities of their children.

The Houston PCDC is based on a competence development model. Starting from the theoretical work of Robert White and the research of Burton White and others on competence, we have attempted to develop a program that not only provides cognitive stimulation with the expected outcome of higher scores on aptitude and achievement tests, but also of increase in interest in learning, curiosity, self-esteem and interpersonal assurance. The goal of increased competence is held for parents as well as children.

In designing the program, one of the initial questions had to do with the extent to which we would have to consider cultural characteristics of the families involved. In our review of the literature and discussions with Mexican-American parents and professionals we found that many behaviors and customs are ascribed to Mexican-American culture, but we also found a great deal of inconsistency and contradiction. There were, however, a few areas of high agreement. The program design attempts to take these into account.

The fact that most Mexican-Americans in our area have Spanish as their first language and that most are not at all fluent in English was obviously important. Our surveys showed that the parents want their children to know English and ideally, to be fluently bilingual. The program emphasizes language training for the mothers and the children. Furthermore, all members of the staff who work directly with families must be bilingual and curriculum materials, test, interviews, etc., are prepared in the two languages.

A second cultural-related feature is that these families have a father present in the home. He is the principal breadwinner, albeit underpaid, and in a very real sense, head of the household. We had expected, and still believe it to be true, that the programs for mothers and babies would not be effective without the fathers' active support. The problem has been one

of finding ways of interesting the fathers and coordinating project schedules with father schedules. We have tried a number of approaches and now think that the most effective one involves several coordinated activities: fathers are involved in several weekend family workshop sessions, they function on the Parent Advisory Committee, they attend evening discussion groups in the second year, and they participate in project of their own making. This year, one such project is a course on do-it-yourself automobile repair.

Traditionally, the Mexican-American mother occupies a homemaker role. As may be seen by reviewing the 1970 census reports, she has not entered the labor force to the same degree Anglo and Black mothers have. There are indications that more and more do seek employment outside the home, but the numbers are still not great. Furthermore, her homemaker role is rather restrictively defined. She is expected to care for her children and husband in the home and to limit her circle of acquaintances to few beyond the members of the extended family. Based on these considerations, we decided that mothers of very young children would be reluctant to take them out of the home to participate in an educational program. This may or may not be the case, but we did decide to create a home-based program for the first year. In order to take advantage of the support of group interaction, and to make use of a nursery school base, the second year of the program was designed to take place at the PCDC Center.

The Program

Families enter the project when the program child is one year old. The mother and baby are enrolled in an in-home teaching program. For a year, they are visited in their home weekly by specially trained bilingual teachers who attempt to help the mother become a more effective teacher of her child. At least 36 lessons are covered for each mother-child pair. Some of the topics covered include "developmental levels", "the mother as teacher", "language development", "behavior management", "self-concept", and "fantasy play". While at times the teacher interacts directly with the baby to model some behavior or to elicit the child's response, the main orientation is toward the mother. She is taught how to assess her baby's readiness for new learning, and how to make toys that are attractive, inexpensive, and appropriate for learning, and how to manage behavior problems. More emphasis is placed on understanding and responding appropriately to the baby than to stimulating this development. The goal is for the mothers to learn ways to arrange the babies' environment so they can actualize their potential.

During the same year, the entire family participates with other project families in three or four Family Workshops. About ten families are brought to a weekend residential retreat center where family members participate in interaction sessions. At various times during a workshop there are sessions for fathers, for mothers, for parents together, for various

children's age groups, and for families as units. Each session emphasizes some topic such as communication, decision-making, and other aspects of family functioning. The last session is designed entirely by the families themselves. In the children's groups, developmentally appropriate adaptations are used. There are activities in nature, art and recreation with freedom to explore the woods and pond. A major function of this program is to elicit interest of the fathers and enhance their involvement in the entire project. While families who have participated in these weekend sessions are enthusiastic about their value, many of the families have never been able to attend. Father's employment, illness in the family, and extended family obligations have all been significant factors in family participation.

During the following year, the mother and the program child, who is now two years of age, participate in a program at the Center itself. Both attend four mornings a week. Mothers receive a stipend for each session to cover baby sitting, etc., expenses. The curriculum for the mothers has two aspects: home management skills to help the mother develop her own resources and make effective use of community resources, and child development to help promote the mother's sensitivity to her child and to the teaching task. Home management skills have included nutrition, cooking, sewing, and driver education.

The child development program includes classroom observation and mother-child interaction tasks which are videotaped and reviewed by the mothers to increase their awareness of teaching skills. Fathers and mothers attend evening discussions which focus on topics related to their concerns and interests such as home loans, credit, budgeting, program purposes, and their involvement in the program.

There is a language training program for mothers and children within the In-Home, Workshop and Center programs. The population includes families using Spanish only and families using varying forms and degrees of English. The program is grounded in linguistic theory, with the opportunity for the staff to develop theory and practice further in the field of bilinguality with young children. The goal is not to impose English, but rather that both Spanish and English linguistic systems be used effectively as mediating agents. Value is placed both on the cultural and language patterns of the families with their Mexican heritage and on the acquisition of language and skills necessary for educational and occupational advancement. Language instruction and practice are interwoven into all program activities.

As the program families participate in the two-year program above, Outreach, or Community Workers, help them make use of the wide range of medical, nutritional, educational, and

welfare services available to them. Medical examinations and laboratory tests are provided for children with followup as indicated.

These supportive services are essential as many of the families are at rock bottom financially and a rather large number have overwhelming medical problems. Without assistance some could not take advantage of a parent education program.

Evaluation Design

The outcome evaluation of the program calls for the gathering of data about the children, mothers, and other family members on an annual basis. Measures are taken at the time of entry into the project, at the end of the In-Home/Family Workshop year, at the end of the Center year which terminates active program participation, and at yearly follow-up periods until the program child is eight years old.

The design also includes a control group of families selected at the same time and in the same way as the program families. Assignment to program or control group is on a random basis. Control families receive outreach and medical services, only. There is also a second control group which receives no services to control for the effect these services might have on the families. As data are still incomplete for this special control group, no results will be reported.

In order to have an evaluative overview of the two year program at the end of one year of operation, we included a group of two-year-old children and their families in the Center program even though they had never participated in the In-Home program. This is a one time occurrence. In the future, all Center families will have completed the In-Home/ Family Workshop program first. Our first full program, two year evaluation will be available next October.

The long-range design calls for new cohorts of children and parents to enter the project each year. Approximately 60 families each will be assigned to the program--or experimental --group and a like number to the control group. The other control group will consist of a smaller number of subjects.

Because an annual assessment of outcome provides only a gross measure of the effects of a program with so many complex elements, we have also included a number of mini-outcome or curriculum unit measures. It is not feasible in terms of staff resources and subject patience to measure performance on every program unit, but we have sampled units from each of the main programs. For example, children are tested on their familiarity with concepts taught in the nursery school after completing the curriculum unit on concepts. Mothers are questioned about their knowledge of terms used in sewing at the beginning of that homemaker unit and after it. We expect the final outcome for mothers and children to be dependent upon the successful completion of the various program units, but do not expect this to be a simple additive function.

The evaluation also includes measures of program process. General project goals are converted into component goals. The means for achieving these are described in curricula and manuals. Teachers follow these in their work with the mothers, and the mothers, in turn, make use of this information in their

interactions with their children. Each of these links is sampled by a variety of assessment procedures to permit an accurate description of the way in which program objectives are actually carried out. We regard these process measures as essential for the overall evaluation because without them, we could not be sure that a coherent program actually existed.

Subjects

Fifty-three families with one-year-old babies entered the first year program. At the same time, 35 control families were enrolled. At the end of the first year, post-test data were available [redacted] 34 program and 28 control children.

Of the 27 families who entered the second year program, 17 remained for post-test and for the control group, 17 of 22 were available. The tables that follow do not always show these numbers. Data were incomplete for some subjects.

The high rate of attrition for all groups, approximately one-third, was due very largely to the mobility of the parents. Some families returned to the Rio Grande Valley or Mexico. Others left the low income area in which the project was located to move into better houses and to accept better jobs.

Characteristics of the families for whom post-test evaluations are available are shown in Table 1. The drop-out families are not shown. Some significant differences appeared between Stay and Drop families, but no patterns were apparent.

As shown in Table 1, the families involved in the program show the following characteristics: relatively low education, low income, fathers are usually present, and the number of children per family is fairly high. Not shown in the table, but also important, is the fact that Spanish is the language spoken by most families. Only 27% are fluent in English.

Research Measures

The tests, interviews, and observational procedures used in this research were selected for their relevance to a set of hypotheses we prepared about the development and maintenance of competence in mothers and children. The statement of hypotheses is quite lengthy and cannot be repeated here. Nor can all of the research measures that are being used be described in detail.

Child Measures

Babies are administered the Bayley Scales of Infant Development upon entering the project and again at the end of the first year. When they exit the program at age three, they receive the Stanford-Binet and Palmer's Concept Familiarity Index. Mazeika's Receptive Language Inventory is administered at ages one, two, and three.

Mother Measures

Mothers are interviewed in their homes on family characteristics and child rearing attitudes shortly after entering the program. These are assessed with the Comprehensive Family Data Inventory, Engel's Psychological Mindedness Scale, the Psychological Well-being Scale, Traditional Family Ideology, Value-Scale and a battery of language measures. The home as a learning environment is assessed with Caldwell's HOME Inventory at the same time. Mother-child interaction is measured for two and three year olds with the Maternal Interaction Structured Situation (MISS). This procedure is similar to that used by Hess, Shipman and Brophy. The mother is asked to teach her child using standard toys. The mother-child interaction is videotaped and scored using trained observers. The MISS provides data on the mother's teaching behavior, the child's response to the mother, and their interaction.

Results

I will turn to the child results first. Table 2 reports the Bayley test results for the first year group. There were no differences between the groups when first tested at the beginning of the program. The post-test results do show differences between groups on the Mental Development Index with the Experimental group having the higher score. Furthermore, the Experimental group's pre-post change is significant and the control groups is not.

Table 3 shows the major results for the second year children. Again, there were no pre-program differences on the Bayley. Post-program testing with the Stanford-Binet showed significant differences between the groups with the Experimental group higher than the control group, 97.9 to 88.2.

We also gave Palmer's Concept Familiarity Index at the conclusion of the program. The children had just completed the concept curriculum developed by Palmer, Dawson and others and the test served as a unit outcome measure. The Experimental children were successful on 64.1% of the items, significantly more than the number achieved by the control children 52%.

Although we are pleased that the child results have come out as they have, and indeed, we think it is important that a parent education program show early effects on children, we

are inclined to be very cautious about the significance of these results. Additional cohorts follow these pioneers and if the initial results are replicated, we will view the baby data more confidently.

We have been disposed to regard the results for mothers as being more important at this time.

Unfortunately, although we have obtained a great deal of information about mothers behavior, attitude, etc., delays in scoring and a final ill-timed breakdown of the University's computer limit the results I can report here.

Table 3 includes the major results of the MISS, our most behavioral measure.

The results reported are percentages. Each mother-child interaction was coded for control, affect, and information. The post-test results show highly significant differences between Experimental and Control mothers on Autonomy Granting and Intruding. Mothers were scored Autonomy Granting, Structuring or Intruding, so necessarily, if the group is high on one, it must be lower on the others.

There were also significant differences on the Affect dimension with Experimental mothers warmer, Control mothers more neutral.

The Information codes are highly complex and we have not completed our analysis of them yet.

Our pre-post data are also still in the process of analysis. A preliminary analysis suggests change did take place for Experimental mothers.

Looking at the videotapes, one gets the impression that the Experimental group mothers are much smoother. The Control group mothers appear to be either pushing their children or interacting sporadically. The Experimental group mothers seem finely attuned to the interests and actions of their youngsters, encouraging, rewarding, and mainly, supporting compentent behavior

HOME

Although, the results of Caldwell's HOME were not included in the tables, we have partially analyzed these data.

There were no significant differences for the first year groups.

The second year groups show a tendency ($p < .10$) for the Experimental homes to offer more intellectual stimulation than the Control homes. Subscales for Provision of Appropriate Play Materials and Maternal Involvement with the Child were significant at the .05 level.

Incidentally, The Play Material score is correlate .60 with child's Stanford-Binet IQ.

Conclusions

The development of our curriculum materials and our process measures document the coherence of the program.

The question still remains of effectiveness. We cannot really know until we see the performance of the children several years from now. In the meantime, the findings of child changes now plus the results for mothers showing more warmth, and greater appropriate responsiveness to the child together with some evidence that the Experimental homes provide richer learning environments bode well for the future. Our review of the rather scant literature suggests that these are the kinds of changes we should hope to see.

TABLE 1

SUBJECT CHARACTERISTICS

Characteristic	Group			
	In-Home Program		Center Program	
	Experimental	Control	Experimental	Control
N	34	30	17	17
Father's Age	29.5	32.0	32.3	37.4
Mother's Age	27.2	28.3	29.6	33.0
Father's Education	6.5	8.7	7.6	6.8
Mother's Education	7.8	7.9	7.6	6.5
% Married	94	80	94	77
Number of Children	3.3	3.2	3.4	5.2
Per Capita Annual Income	$942	$1081	$891	$605
Mothers Employed	2	4	2	0

TABLE 2

TEST RESULTS FOR CHILDREN PARTICIPATING IN

THE FIRST YEAR PROGRAM: MEANS AND SDs

	Group			
Measure	Experimental	Control	Difference	t
N	32	28		
Pre				
Age	13.3(2.6)	14.9(2.0)		
Bayley				
MDI	85.8(21.5)	89.6(22.9)	-3.8	-0.66
PDI	93.0(18.3)	99.5(17.2)	-6.5	-1.40
Post				
Age	22.6(1.6)	25.1(2.2)		
Bayley				
MDI	95.7(10.4)	88.6(12.7)	+7.1	2.36
				p<.05
PDI	96.3(11.7)	96.9(13.6)	-0.6	0.18
Pre-Post				
Change				
MDI	+9.9	-1.0		
t-test	3.1			
	p<.01			
PDI	+3.3	-2.6		
t-test	1.1			

SSCD, March, 1973

TABLE 3

TEST RESULTS FOR CHILDREN PARTICIPATING IN SECOND YEAR PROGRAM: MEANS AND SDs

	Group			
	Experimental	Control	Difference	t
Bayley				
N	16	16		
Age	24.3(2.0)	25.3(2.3)		
MDI	78.6(10.5)	82.6(15.5)	- 4.0	0.84
PDI	97.1(24.0)	97.6(26.9)	- 0.5	0.05
Stanford-Binet				
N	16	16		
Age	30.5(1.63)	31.0(1.51)		
IQ	97.9(6.38)	88.2(8.2)	+ 9.2	3.55
				$p<.01$
Concept Familiarity Index				
N	15	13		
% correct	64.1(9.8)	52.0(15.4)	+12.1	2.41
				$p<.05$

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TABLE 4

MOTHER BEHAVIOR ON THE MATERNAL INTERACTION STRUCTURED SITUATION: MEAN PERCENTAGES IN CATEGORIES WITHIN DIMENSIONS

	Group		
Dimension	Second Year Program	Second Year Controls	t
N	16	14	
Control			
Autonomy Granting	46.1(9.3)	34.5(10.5)	3.15
			p<.004
Structuring	51.5(9.4)	57.0(8.9)	1.55
Intruding	2.0(1.25)	8.4(6.2)	3.85
			p<.001
Affection			
Warm	14.6(9.2)	4.4(4.3)	3.75
			p<.001
Neutral	77.8(10.0)	88.2(4.3)	3.54
			p<.002
Preoccupied	1.8(1.7)	2.4(2.7)	0.64
Irked	1.0(1.4)	1.8(2.7)	0.91

SRCD, March, 1973